ENGINEERING NEWS-RECORD

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The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • JANUARY 7, 1943 • VOLUME 130 • NUMBER 1

Big public housing program may get green light for 1943

War Production Board expected to make available material for more than 600,000 units during coming year, as lumber and other material shortages show signs of easing

It is never possible to predict material supply more than three months ahead, but as 1943 begins, the indications are that the War Production Board will provide materials to complete about 294,000 private and public dwellings now under construction, and to start an additional 340,000 dwellings.

Basis for this belief is the fact that the WPB's Requirements Committee has granted an allotment of metal for the first quarter of 1943 sufficient to carry out the National Housing Agency's full program for the quarter.

Even the lumber situation, which in recent months has represented the most critical material shortage in housing, shows some signs of easing. Reportedly, military demand for heavy timbers has created a substantial supply of by-product slab lumber, and it is believed that means can be worked out to put this to use.

Regardless of the amount of materials available for housing, the expectation is that it will be possible in the future to use it with much less red tape and delay than has existed in the past year.

Much of the delay has arisen from the necessity of having projects approved first by the NHA and then all over again by the WPB. The two agencies are now moving toward a plan by which WPB will allocate blocks of material to NHA, leaving it to that agency to distribute it among the houses. This plan will be formalized soon when NHA is set up as a "claimant agency" under the new Controlled Materials Plan.

NHA's public house-building subsidiary, the Federal Public Housing Authority, and its predecessor agencies built 128,000 dwellings during 1942, and at the end of the year had 214,000 still under construction. Backed by a $600,000,000 appropriation, FPHA is planning to start another 170,000 units during the first six months of 1943. Of these, 99,000 will be family dwelling units, 18,000 will be "war apartments" for childless couples, 24,000 dormitory accommodations for single people, and 5,000 trailers.

Plans for privately financed housing are necessarily more uncertain. About 195,000 such houses were completed with FHA financing in 1942, 150,000 of them with priority assistance. At present, about 80,000 are under construction. NHA plans to recommend priorities on another 170,000 houses during the coming year. This of course is subject to a double uncertainty—whether WPB will approve the priorities and whether private builders will be interested. Strict rules as to the use of materials in housing, Office of Price Administration rent ceilings, and the requirement that all priority-aided housing be built for rent make this last somewhat uncertain.

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WPB stops $1,200,000,000 construction work

War Production Board stop-orders on construction projects now have been issued on about $1,200,000,000 worth of work.

Most of this is non-war building. Still to come is the bulk of a $2,000,000,000 cut in industrial war facilities; this will represent about a third of the $6,000,000,000 of still uncompleted industrial expansion, including construction and machinery acquisitions.

Press Assn. Photo

Portable water tank supplies fighters

As precious as weapons to fighting men is water, particularly in the wild jungles of the subcontinent of New Guinea.

The unit shown above feeding a supply trailer with water to be taken to troops nearer the front, is an example of a type developed several years ago by the Corps of Engineers (ENR, Nov. 21, 1940, p. 696). The unit is divided into two sections, one-section including a gasoline engine driven pump, a hypochlorinator, chemical feed box for the concurrent application of two water treatment chemicals, a hypochloride solution reservoir, and all necessary inter-connecting piping, hose and accessories. The other section consists of a complete filter unit with all needed piping, valves, gages, etc. required for filtering and backwashing.

Northwestern Tech gets $20,000,000 endowment

Northwestern Technological Institute, at Evanston, Ill., will receive "in excess of $20,000,000" from the estate of Walter B. Murphy, who died Dec. 16.

The school was founded in 1939 with funds from a gift of $6,735,000 from Mr. Murphy, most of this fund being used for construction of a new building on the campus (*ENR* June 18, 1942, p. 968), rated as one of the finest college engineering buildings in the country.

The bequest stated in Mr. Murphy's will specified that the fund should be used to "develop, maintain and operate the institution." Beyond this restriction no limitations were placed on the funds. Mr. Murphy expressed a desire that as much as possible of the principal should be held intact and used for endowment of the Institute. At the same time he empowered trustees to spend portions of the principal from time to time, and all or any part of the annual income, for additional buildings, equipment, professorships, scholarships, books, research and such other purposes as the trustees think necessary to the proper operation of the Institute.

Mr. Murphy also specified that the Institute, as a part of its operation, may give instruction and funds to other than engineering students of the university.

The new building, dedicated last June, houses the civil, chemical, mechanical and electrical engineering departments of the Institute, and the physics, chemistry departments of the university. The Institute is operated on the "work-study" plan in which student-engineers alternate three months of study on the campus with periods of work with cooperating industries.

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Establish Engineer Corps division in Canada

The U. S. Army Corps of Engineers has established a new division, to be known as the Northwest Division, with headquarters at Edmonton, Alberta, Canada, according to a War Department announcement.

Colonel Theodore Wyman, Jr., Corps of Engineers, is division engineer. Colonel Wyman, recently awarded the Distinguished Service Medal for exceptionally meritorious and distinguished service while district engineer of the Honolulu, T. H. Engineer District, will have charge of construction, maintenance and repair activities for the Army in the Northwest Service Command, the establishment of which was announced September 10, 1942.

Nick Helmers, bridge pier expert, dies at New York

Nick F. Helmers, authority on construction of deep-water piers, died Jan. 1, at his home in New York City. Mr. Helmers, who was 59 years old, was president of Nick F. Helmers, Inc., contractors and consulting engineers of New York, whose principal current job is a large war base in Greenland.

Outstanding among the many foundation jobs for which Mr. Helmers was responsible were those for the Suisun Bay railroad bridge at San Francisco and for the Huey Long Bridge across the Mississippi at New Orleans. It was on the Suisun Bay Bridge, in 1929, that the sand-island method of sinking large, deep open-caissons was introduced. Mr. Helmers elected to use it again in 1935 on the New Orleans bridge, where one pier had to go to the record depth of 180 ft.; only the piers of the cantilever span in the San Francisco-Oakland Bay Bridge, built subsequently, go deeper. These jobs were carried out when Mr. Helmers was vice-president of Siems-Helmers, Inc., of St. Paul.

Mr. Helmers, a native of Sweden, came to the United States with his parents when he was a year old. He spent his boyhood in Minnesota, and from 1900 to 1910 was connected with the Northern Pacific Railroad, four years as superintendent of bridges and buildings. Following that he entered the heavy construction field as a contractor, a calling that he followed the rest of his life. Mr. Helmers served two terms as president of the Associated General Contractors of America, Inc., in 1934 and 1935. He came to New York from St. Paul in 1939.

R. H. Dearborn, dean of the school of engineering at Oregon State College, Corvallis, and F. C. McIntosh of Pittsburgh, Pa., chairman of the committee on research of the American Society of Heating and Ventilating Engineers, have announced the consummation of a cooperative agreement to investigate heat flow through wet building walls.

Award contracts for N. C. city's water pipeline

Alleviation of a critical water supply situation at Wilmington, N. C., was a step nearer achievement this week with the announcement that contracts have been awarded by the Federal Works Agency for the construction of a 22-mile pipeline and pumping station designed to furnish up to 22,000,000 gallons of salt-free water daily.

Price Brothers, of Dayton, Ohio, were given a contract for $1,229,993 to construct a 30-in. diameter reinforced concrete pipeline, from King's Bluff Dam on the Cape Fear River to the municipal pumping station at Toomer's Creek, present source of the city's water supply. The contract allows 290 days for completion. The contract for the pumping station, to be built at King's Bluff was awarded to the A. H. Guion Construction Co. of Charlotte, N. C., on a bid of $108,500 if an electric-driven pump is installed, or $158,800 if a diesel engine is used.

Reinforced concrete sections for the pipeline will be manufactured by the Lock Joint Pipe Co. of Ampere, N. J., at a plant to be established about halfway between Wilmington and King's Bluff, according to present plans.

The King's Bluff pipeline and pumping station are a part of a $2,630,000 water-works expansion program at Wilmington for which federal funds have been allocated. The waterworks additions include extension of the city's water distribution system, a filtration plant; alterations and repairs at the Toomer's Creek pumping station, and two 750,000-gallon elevator storage tanks.

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Plan annual Illinois Tech power conference

The Midwest Power Conference, arranged by the Illinois Institute of Technology, will be held as in previous years, according to Stanton E. Winston, director of the conference. Date for the 1943 meeting will be Thursday and Friday, April 9 and 10, 1943, at the Palmer House in Chicago, Ill. C. W. Kellogg, president of the Edison Electric Institute, New York City, will be the keynote speaker. Other speakers will include Col. L. Walsh, war chairman of the American Society of Mechanical Engineers.

Decision to continue the conference, Mr. Winston said, was prompted by the fact that there seemed to be a considerable demand for the meeting as a stimulus for production of power in the war effort. "Power for Victory" has been adopted as the motto for the session.

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Heavy rains bring floods in East and Midwest, control works get major test

Ohio flood control system operation called effective by Army engineer as three-day rainfall sends major streams above flood stage

General rains throughout the eastern states last week brought many eastern rivers over flood stage. In most cases the streams stayed comfortably below record stages, though it is believed that the Cahaba in Alabama approached record levels. The nearby Black Warrior early this week was about eight feet below the 1900 record with a still rising stage of 60.5 ft. West of the Mississippi, the White River, with a 31.5-ft. stage at Newport, Ark. was 4 ft. below the 1927 record. Major flood, however, was the crest moving down the Ohio.

The Ohio flood is following, in general, the pattern of the 1936 rather than the 1937 flood. That is, most of the water is coming from the watershed above Pittsburgh, creating a high stage there but flattening out farther down the river. Though the Cumberland and Tennessee are both up, neither is high enough to indicate any serious downstream trouble. The prediction at Cairo is for a crest stage of only 50 ft.—2.8 ft. below the 1936 level and 9.5 ft. below the record 1937 stage.

The 36.6-ft. crest reached at Pittsburgh on Dec. 31 is nearly 10 ft. below the 1936 record. It is, however, the second highest stage reached since 1907 and is the highest December stage of record.

Out in the Northwest meanwhile, the Willamette River was up to near-record levels. At Albany, Ore., the 30.6-ft. crest was only 0.7 ft. below the 1903 record. At Salem, the 30.4 stage was the highest since 1907's 31.3, though there are 37.1-ft. floodmarks dating from 1890. At Oregon City, the 18.1-ft. stage was a foot below the 1923 flood.

Flood control works effective

Flood control works in the Ohio River Valley have been effective in ameliorating flood conditions which prevailed throughout the entire basin as a result of general late-December rains accompanied by snow-melt in headwater areas. According to Col. C. L. Hall, division engineer at Columbus, O., prevention of much property damage, possible loss of life, and serious work stoppages in important war industries was credited to flood control operations.

On the morning of December 21, Col. Hall said, accumulated depth of snow ranged from 2 to 6 in. north of the Ohio River, averaging about 6 in. over the Allegheny and Monongahela River basins above Pittsburgh. Moderate precipitation occurring from December 21 to 27 was followed by heavier rains from December 28 to 31 inclusive. During the latter period, rainfall at all points south of the Ohio River was 2 or more in. reaching 4 in. over the middle Kentucky and Licking Rivers, and in Central Tennessee. Rainfall averaged 2.8 in. over the Allegheny and Monongahela basins. Depths in excess of 5 in. were largely confined to the Tennessee River basin.

Five reservoirs on Tioneta Creek, Crooked Creek, Loyalhanna Creek, Mahoning Creek, and Tygart River were in full flood control operation. A partially completed reservoir on Youghiogeny River was used as a detention basin. These reservoirs produced an estimated reduction of 2.8 feet in the natural Ohio River crest stage at Pittsburgh, Pa. The flood reached 36.5 feet, 11.5 feet above stage at Pittsburgh on December 31.

Partially completed Berlin reservoir, on the Mahoning River in Northwestern Ohio, was also used as a flood detention basin. An estimated reduction of 1.2 feet in crest stage at Youngstown resulted. At Wheeling, W. Va., the seven reservoir combination effected an estimated crest reduction of 2.6 feet.

Although flood water from the tributary Muskingum River basin was relatively small in volume compared to the upper Ohio, the Muskingum River reservoir system was utilized to 21 percent of its capacity by the storage of 273,000 acre feet of flood waters. Resultant estimated flood crest reductions were 3.6 feet in the Muskingum River at Zanesville, and 1.5 and 0.5 in the Ohio River at Marietta and Huntington, respectively. The Ohio River crested at Huntington on January 2nd at 60.1 feet 11.1 feet above flood stage and at Portsmouth at 61.2 on January 3.

Flood stages which will occur in the Ohio River at Cincinnati, Louisville, and other downstream points, probably between January 4th and 12th, will be favorably effected by the flood control reservoir operations described.

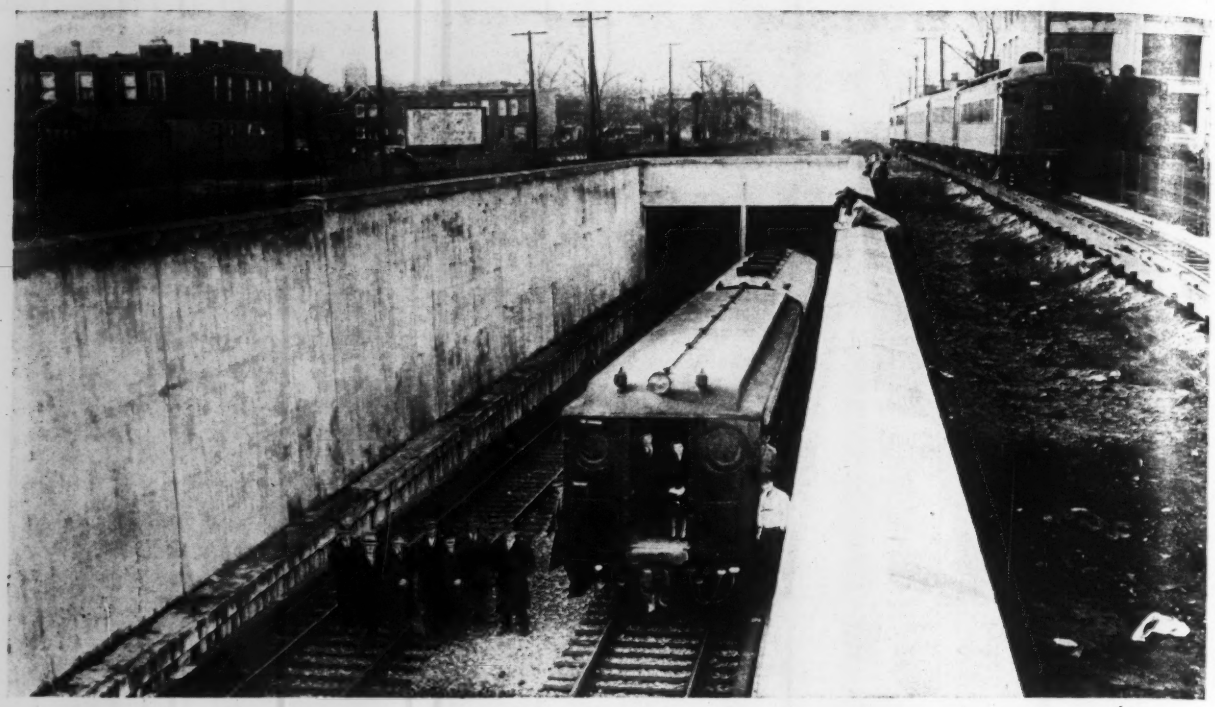
Local works help

Local protection works have also been effective in holding flood damages to a minimum. At Kittanning, Pa., on the Allegheny River, the concrete flood wall barely came into action against a river crest elevation of 796.8 feet. The channel improvement project at Johnstown, Pa., materially reduced flood stages and prevented work stoppage at two large steel mills in the area. The flood wall at Wellsville, Ohio, was fully effective against a river stage 6 feet below its top. The flood wall protecting Cerodo and Kenova, W. Va., was in successful operation. All six pumping stations were in use to remove internal drainage and 24 traffic gate closures were made. Completed units of the local protection works at Huntington, W. Va., gave full protection. All 13 pumping stations were in operation and it was necessary to close 23 of 30 traffic gates. Partially completed units of the Huntington local protection works also provided some flood protection to residual areas and industry. A

(*Continued on p. 7*)

Press Assn. Photo

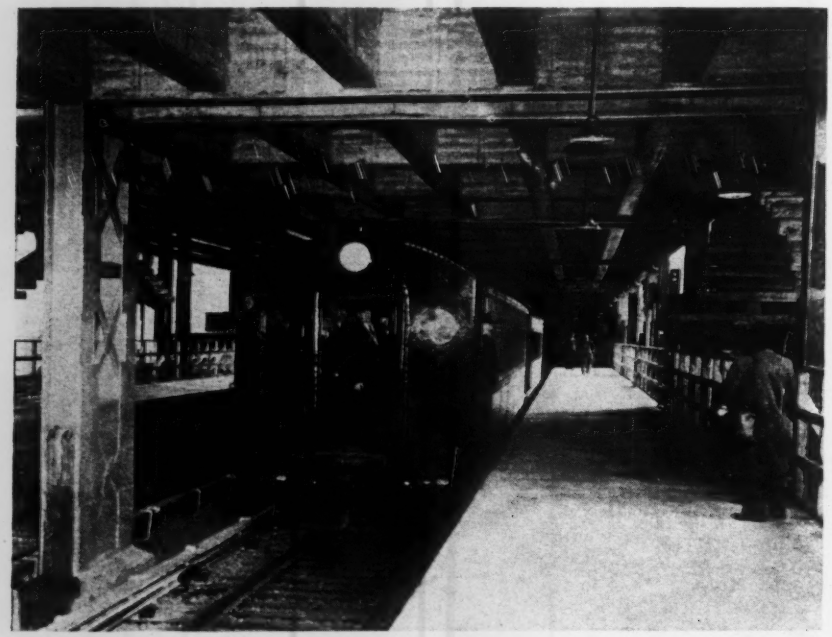
Rising flood waters in the lowlands of Ohio and Pennsylvania last week inundated many roads and temporarily disrupted communication. This bridge on the Youngstown-Akron road near Youngstown, Ohio, was covered with several feet of water when the new Berlin Dam, was used temporarily as a detention reservoir for flood waters. Ultimately, this highway is to be relocated.



Eastern entrance to the new tunnel, at Dunton, Queens, just outside the Jamaica terminal.

Long Island R.R. puts 4.6 mi. line in tunnel

After more than three years of construction work, trains of the Long Island Rail Road last week began operating through the 4.6 mi. Atlantic Avenue tunnel connecting the railroad's Brooklyn (N.Y.) terminal at Flatbush and Atlantic Avenues with its yards and station at Jamaica, Queens. The long tunnel eliminates about 2.3 mi. of track at grade down the center of a busy street with 20 dangerous grade crossings. It replaces about the same length of elevated structure, long deplored as an eyesore, through a residential section of Brooklyn. The original line had four tracks for local and express operation, but abandonment of all except one of the intermediate stations made it practical to provide only two tracks in the new construction.



The East New York (Brooklyn) station is the only one above ground on the new line. There are four traffic levels at this point: East New York Ave. being carried under the tracks in an underpass, an elevated highway over the tracks (on superstructure shown here) and elevated tracks of the Brooklyn-Manhattan Transit Co. (B.M.T.) over all.

Costing a total of about $23,000,000, the project was started Oct. 13, 1939, with laying of temporary track to carry the railroad's commuter trains around construction work. On the section at grade one temporary track in each direction was laid at the outside of the four tracks then in use. Excavation, mostly in sand, was then carried on in an open cut inside braced walls.

Trains continued to operate over the elevated section of track while the tunnel was prepared underneath, also in open cut. The elevated structure was supported on 108 steel bents. Each of these was picked up on a pair of heavy beams and the load carried on temporary supports outside the limits of the new work.

I-beams, several feet apart, with one flange facing the excavation, were driven vertically outside the limits of the new structure. Horizontal breast-boards were slipped in behind the outside flanges of the beams as excavation proceeded. This prevented loss of ground and subsidence of the temporary track adjacent to the excavation.

Inside the open cut a relatively shallow sub-slab of concrete was laid across the bottom followed by waterproofing and a 2 ft. thick slab of concrete. Vertical I-beams, filled between with concrete, were used for the side walls of the tunnel with the thrust of the fill on the wall taken by a horizontal beam across the top of the open cut.

For most of the length of the line the rails are carried on creosoted ties cast in place in a concrete roadbed with ballast used only at track crossovers. A duct bench, with top at car floor level, along one side of each track serves as a walkway to emergency exits.

Highway over tunnel

Over the completed top of the railroad tunnel and extending beyond it, a new roadway is being prepared that will provide for four lanes of traffic in each direction with a 10 ft. center mall, in which grating is placed for ventilation of the tunnel.

Completion of the work, under the material shortage now existing, was permitted because at the time restrictions went into effect 7,000 tons of salvaged steel could be made available by completing the work at a cost of only 4,000 tons of new shapes, much of which was already fabricated. Considerable copper and other valuable metal could also be salvaged.

Operation in the new tunnel cuts from three to four minutes off the scheduled running time between the Flatbush Ave. and Jamaica terminals.

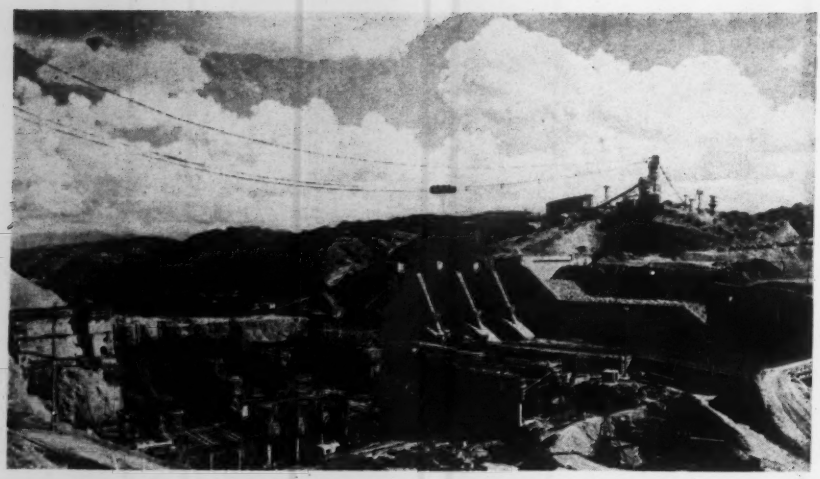
The line is now barely in "operating condition" with considerable work remaining to be done, including the paving of the express highway over the new structure.

The Woodhaven Junction (Queens) underground station is modern in all respects, and will serve as an interchange point between the railroad's Rockaway Beach line (above ground) and the Brooklyn-Queens line.

The work is being carried out under the direction of the New York State Transit Commission under Henry Heins, Jr., chief engineer. Immediate supervision of the work, including the paving, was handled by the engineering forces of the Long Island Rail Road, of which Charles E. Adams is chief engineer and George Patton is engineer-in-charge on the project.

Principal contractors on the tunnel work were: Poirier & McLane Corp.; Tomasatti Construction Co., the Arthur A. Johnson Corp. and NeCaro Co., Inc., and Tully & DiNapoli, all of New York City. The street paving contract has recently been let to Ruciano & Son Corp., also of New York City.

Three levels of railroad traffic at Woodhaven Junction. The Rockaway Beach line crosses on the steel bridge in the center; the tracks of the former Brooklyn-Queens line are at either side of the broad right of way, and the new tunnel is underground. An express highway will eventually occupy the center of this right-of-way.



Keswick Dam progress shown

Construction is being continued by the United States Bureau of Reclamation at Keswick Dam under a War Production Board order (ENR, Dec. 3, p. 576) specifying certain facilities of the Central Valley project to be completed as part of the war program.

Keswick will regulate the variable water releases coming from Shasta Dam power plant upstream, and will provide fish trapping facilities for the Sacramento River salmon rehabilitation program.

The dam's own power units will not be installed until after the war, according to present plans. The panorama shows the downstream face of the dam with the power house section under construction at left, the fish trap in the center, and the spillway section carrying the river flow at right.

New York faces landfill patent infringement suit

Claiming infringement of a patent he holds on the landfill method of refuse disposal, Lewis M. McCarthy has filed suit against the city of New York in the federal court of the Eastern District of New York. Mr. McCarthy's patents relate to the disposition of refuse by dumping and covering the material with earth excavated from a trench directly in front of the filled area. Although the suit was filed on December 18, it was not until last week that depositions were taken at the request of the plaintiff.

New York City landfill practice, inaugurated in 1936, as well as similar operations in other parts of the country, includes the sealing of deposited refuse with earth, the latter material frequently being obtained from a trench excavated in advance of the fill. Recently, the army adopted a similar plan for sanitary disposal of refuse at military posts (*ENR*, Dec.17,p.851). In New York City it is reported that the cost of landfill disposal is about 70 percent less than that for incineration. More than 11,000,000 cu.yd. of fill were placed during 1941, representing a saving of about $1,800,000 over the probable cost of incineration.

Mr. McCarthy, a resident of New York City, made application for his patent on Nov. 6, 1933. He holds one patent granted on Aug. 4, 1936, and another dated July 4, 1939.

Wanaque costs mount due to war demands

The North Jersey District Water Supply Commission recently presented a budget for 1943 including an increase of $34,628 over that of the current year to compensate for increases in salary, necessary anti-sabotage precautions and other items.

In presenting the budget for consideration by representatives of the municipalities participating in the use of Wanaque reservoir the commission said that war conditions have resulted in the heaviest increases in expenditures. The larger use of water has made it necessary to add $6,300 to next year's budget for chlorine, lime and other chemicals needed in treatment of the water; increased illumination of the dam and headworks to lessen the danger of sabotage has added $1,000 to lighting costs; provision of $5,000 was needed for extra guards recommended by army authorities, and insurance costs have risen.

A Revised edition of the "Builders Hardware Manual" has been issued by the War Production Board. The manual has been brought up to date by incorporating provisions of all materials and limitation orders of more recent date than the old edition published July 15, 1942. Copies may be obtained at any regional or district field office of the WPB.

Kennedy leaves road post for A.S.F. office

G. Donald Kennedy, state highway commissioner for Michigan since November, 1940, resigned his post as of December 30 to accept appointment as vice president for highway transportation for the Automotive Safety Foundation, in Washington, D. C.

Mr. Kennedy has been succeeded by Lloyd B. Reid, deputy commissioner, who will serve until April, when a new commissioner will be elected to fill Kennedy's unexpired term which ends on July 1, 1945. Kennedy's first major work for the Foundation will be to supervise and enlarge its program to aid war transportation with emphasis on conservation of highways and operating equipment. He plans to stress adequate maintenance of the highway system and the necessity for construction of access roads to military installations and war production factories.

Mr. Kennedy

A native of Michigan, Mr. Kennedy, now 43, is a civil engineering graduate of the University of Michigan. His first public office was as city engineer of Jackson, Mich. and in 1926 he became director of water supply and aeronautics for Pontiac. During his six years there he designed and directed the construction of the Pontiac municipal airport.

Lloyd B. Reid

Kennedy became deputy state highway commissioner for Michigan in 1933 under Murray D. Van Wagoner — now governor. He was appointed commissioner in November, 1940, when Mr. Van Wagoner succeeded to the governorship. Recently president of the American Association of State Highway Officials (*ENR* Dec. 17, p. 830), he is also a member of the executive committee of the American Road Builders Association.

Lloyd B. Reid, also a Michigan native, is also a civil engineering graduate of the University of Michigan. He has been a consultant to the city of Durand for the design and construction of a sewage treatment plant there; assistant to the engineer at Pontiac, senior draftsman for the Department of Water Supply for the City of Detroit and joined the State Highway Department in July, 1933. He is secretary of the Michigan Engineering Society.

Heavy rains cause floods in East and Midwest

(*Continued from p. 3*)

new channel improvement and levee project at Newark, Ohio, was effective for the first time. Protection Works at Ironton, Ohio and Lawrenceburg, Ind., were in operation according to plan and no difficulties were encountered in providing flood protection. Projects under construction at Cincinnati and Portsmouth have been so delayed by war conditions that they will not be effective against the flood. However, it was possible to keep the flood out of Portsmouth, using parts of the old local plan, good for a 62-foot stage, and parts of the new work supplemented by emergency sandbagging, with the valued assistance of engineer troops.

Local protection facilities at downstream Ohio River communities are in readiness for operation when crests occur. The Jeffersonville, Ind. and Evansville, Ind. projects are only partially complete due to interference of the war, but will give the protection needed for the current flood. Projects at Tell City, Ind., Golconda, Ill., Brookport, Ill., and Harrisburg, Ill., are in readiness. The Paducah project is incomplete.

Damage estimates

Estimates of flood damage are incomplete. Reservoir operations are provisionally estimated to have saved $19,000,000 damages in the immediate vicinity of Pittsburgh and $10,000,000 at Wheeling. Final estimates covering entire flood plan will obviously be larger. The local flood protection works at Huntington saved $3,000,000. More important than these figures, is the fact that stoppages in war industries were prevented in many cases, and minimized in many more. It is clearly impossible to be more specific as to the plants protected.

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Postwar public works study urged by Wolman

Preoccupation with the war effort must not rule out all thoughts of readjustment to a postwar world, Abel Wolman, president of the American Water Works Association, told members of the New York State section at that group's meeting in New York City Dec. 30. He called upon public works administrators to contribute their "best thinking" to the problems of planning and financing new facilities, pointing out that these matters require years and not simply months of study.

"When the war ends," said Mr. Wolman, "these are the primary elements of the postwar readjustment problem: (1) More than half of the national income now devoted to war purposes must be reallocated to peacetime purposes; (2) About 30,000,000 men must be diverted from war work to different fields of endeavor; (3) Industrial conversion, totaling $23 billions annually, must be undertaken; (4) Municipal reorientation programs must be initiated, a matter which will involve redesign and expansion of all types of public service; and (5) Fiscal policies must be arranged in accordance with peacetime purposes."

Other countries, including England, China and most of the governments-in-exile, are developing postwar plans, asserted Mr. Wolman. In the United States there are multiple agencies prepared to undertake such planning, and, in fact, certain legal and administrative measures already have been provided to implement such work. Specifically mentioned was the Beiter bill (*ENR*, Dec. 3, 1942, p. 758), providing funds for preliminary plans and designs, and another measure, the passage of which would make it possible for municipalities to build up financial reserves through purchase of special war savings bonds.

Other speakers on the program, which constituted the annual winter meeting of the New York section, included: Harry Jordan, secretary of the A.W.W.A., Major John H. Brewster, of the OCD, who discussed defense requirements for waterworks, Francis Keally, camouflage specialist, and H. E. D'Andrade, blackout specialist, both of the OCD.

THE LAST section of U. S. Highway 67, between Marfa and Presidio, Texas, has been completed, filling the gap in the road in the Big Bend country.

Adm. Smith, former CEC head, recalled for duty

Rear Admiral Norman M. Smith, CEC, USN (Ret.) chief of the Bureau of Yards and Docks from 1933 to 1937, has been recalled to active duty, and assigned as officer in charge of a newly established Seabee Replacement and Recuperation Center in California.

Before reporting to the center, where returning Seabee contingents will be afforded rest, and leave before being reassigned to the field, Admiral Smith is making an inspection tour of eastern Seabee camps to observe training methods there.

Admiral Smith, a graduate of the Naval Academy in 1906, has served as public works officer in various naval stations and was for three years in charge of the Public Works Department at Boston Navy Yard before being appointed chief of the Bureau of Yards and Docks.

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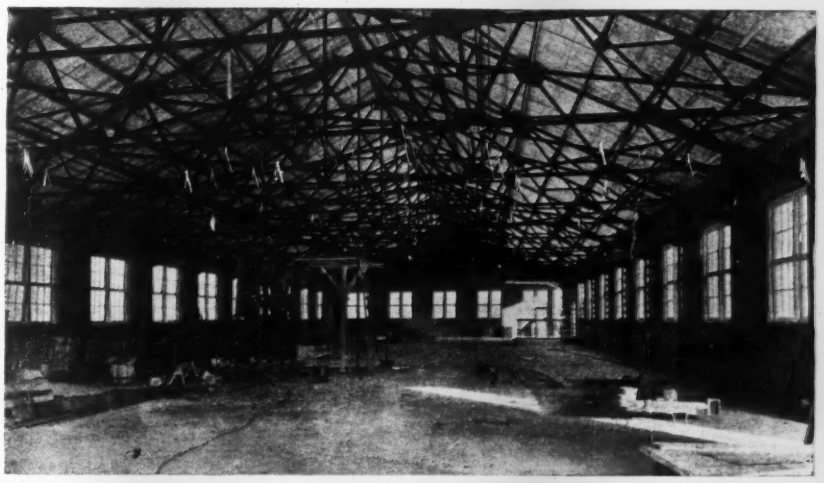
Illinois gets CCC camp equipment and buildings

The Corps of Engineers has turned over to the Illinois Division of Parks and Memorials the buildings and equipment formerly used by the Civilian Conservation Corps at New Salem State Park.



Old car barn framework builds war plant

The steel framework of an old street car storage shed—unused since buses replaced trolleys on the streets of Springfield, Ill., some years ago—was taken down recently to furnish the necessary framework for a new addition to a war plant.

The new building, of fireproof brick construction, is of exactly the same dimensions as the barn from which its steel came, being 62 ft. by 210 ft., and one story high. It has just been put into use for assembling and shipping war materials. Architect on the new structure was Henry Telmle and R. B. Evans was contractor for the dismantling and reerection.

Experimental concrete tanker shows its mettl

The *Phantom*, an experimental, privately built, concrete ship constructed in Florida, has reached Washington under its own power.

Built as a possible prototype of a 260-ft. 2,000-ton tanker, the experimental ship is 91½ ft. long and has a displacement of 178 tons at 5 ft. 8 in. draft, with a 14-ft. beam and a total depth of 7 ft. Ocean-going ships of this type would have a 36-ft. beam and 27-ft. depth.

The *Phantom* required about 70 tons of concrete, 6 tons of steel and will carry a load of 100 tons of oil.

A cylindrical shell 2½ in. thick at the sides and 3 to 4 in. thick at top and bottom forms the hull. Designed by V. Yourkevitch, designer of the hull of the former French liner Normandie, design does not follow that of steel ships, but was made specifically for concrete, taking advantage of a moulded, streamlined hull to get high strength with a minimum of concrete and reinforcing.

Cast in sections

The hull was cast in four sections; the horizontal bottom, the two semi-cylindrical side shell, and the top slab. Reinforcement is longitudinal and transverse steel, with ⅜-in. and ½-in. bars at 6 in. c. to c. Bars are continuous through the joints and all transverse steel is welded. A longitudinal bulkhead extends the length of the hull between the two end bulkheads. Three intermediate transverse bulkheads divide the ship into four identical holds, each consisting of two compartments with a capacity of about 12.5 tons of oil each.

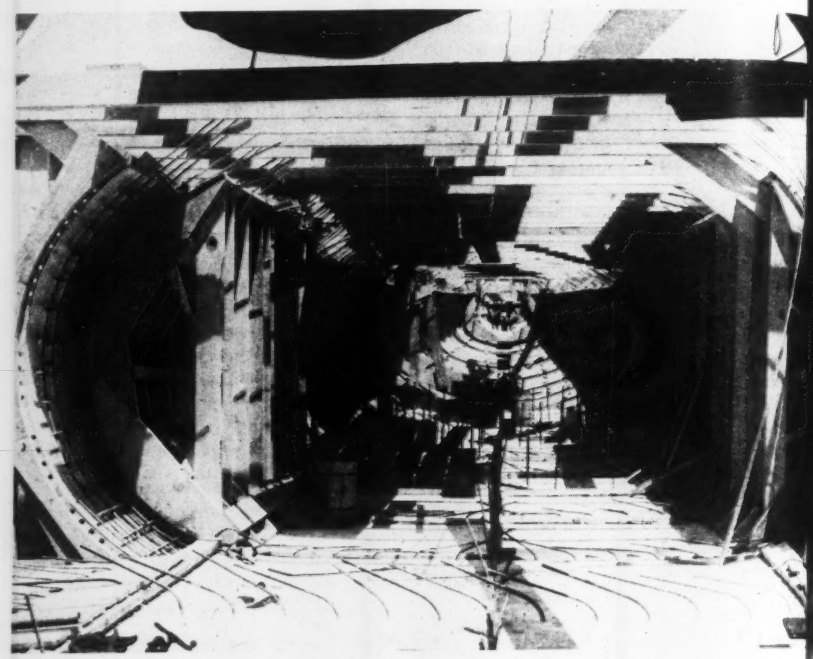
The larger ships are believed able to float even should a torpedo shatter one or two compartments.

Standard portland cement and natural sand and gravel aggregate were used to produce a concrete having a compressive strength of 6,300 psi. at 28 days. The ship is powered with a diesel engine developing 80 hp. at a cruising speed of 1,000 rpm. with a maximum of 158 hp. at 1,600 rpm., using a 44-in. dia. propeller with a 4:1 reduction gear.

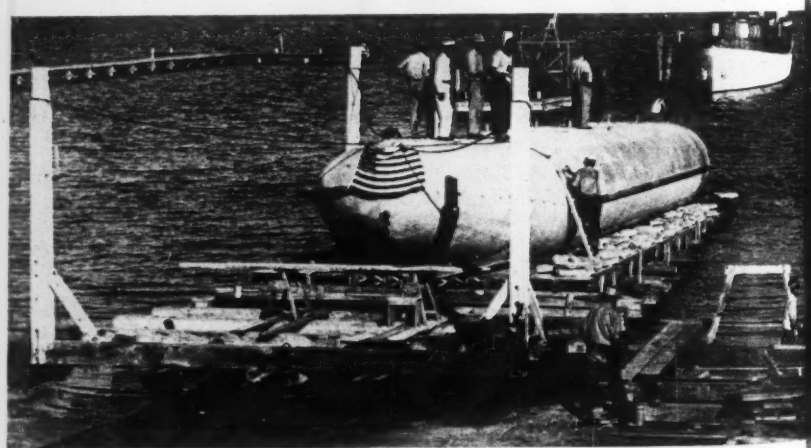
Built on a cradle on a marine railway, the *Phantom* illustrates the possibility of constructing such vessels in the many smaller boat yards that now have little work. The yard in which the vessel was built had had no previous experience with concrete vessels.

Details were prepared by Yourkevitch Ship Designs, Inc., New York, and the tanker was built for the Maris Transportation System by the Tropical Marine Ways Yard at Riviera, Fla. It traveled under its own power through the Inland Waterway to Washington, D. C. The average distance covered in 8 hours was about 60 miles—a speed of nearly 8 knots, in light condition carrying about 3 tons of fuel and water. No leakage through any compartment has been observed in the two months that the vessel has been afloat, although the ship crossed Chesapeake Bay in weather that caused heavy seas.

These ships are the type that the designer and an associate, F. R. Woodworth, radio engineer, have suggested be used in "phantom" convoys. Several of the concrete vessels would be used together without crews, the automatic diesel engines being operated from a single control ship.



A single longitudinal bulkhead will be placed along the line of reinforcing seen in the center above, and five transverse bulkheads are to be placed across the hull. Top and bottom shell thickness is 3 to 4 in., and the cylindrical side shell is only 2½ in. Reinforcing is a single layer of ⅜- and ½-in. bars at 6 in. c. to c. both ways.



Constructed on a cradle on a marine railway, the concrete hull is shown ready for launching. The unusual streamlined design was developed privately, as a suggestion for concrete tankers for use both on the inland waterways and on the high seas.

TVA reports on year's construction activities

The Tennessee Valley Authority reported last week that as of June 1942, it had become one of the largest power producers in the United States, having increased its electric generating capacity by almost one-third, to 1,374,500 kilowatts.

During the fiscal year, TVA began construction of eight dams for war production of power and continued work on three dams on shortened wartime schedules. Four dams and a large steam plant began operation, and 500 miles of transmission lines were built, increasing the Authority's network by 10 per cent. A major interconnection with power systems to the North was affected, making possible more efficient use of power facilities in the TVA and the adjoining areas.

Completion of dams during the year brought the navigation channel on the Tennessee River to four-fifths of its ultimate 650-mile length, and flood control storage in the Authority's reservoirs was increased to 6,000,000 acre-feet, an increase of 2,000,000 acre-feet. Completed and placed in operation during the fiscal year were Cherokee, Chatuge and Nottely Dams, and Watts Bar Steam Plant. Work started during the year included Douglas, Fontana, Appalachia, Ocoee No. 3, Watauga and South Holston dams. In addition, Fourt Loudoun Dam and Kentucky Dam were rapidly nearing completion, the Authority reported.

Road revenues from power operations were $25,329,954 in the fiscal year. Net operating income, after depreciation, payments in lieu of taxes and amortization of acquisition adjustment but before interest, was $4,280,252.

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Jersey water districts plan emergency service

As a result of five months of intensive study by experts, George S. Burgess, chairman of the New Jersey State Water Policy Commission, last week announced completion of plans for conserving water supplies in seven north Jersey counties in the event of emergency.

The underlying plan provides an interchange of water among privately controlled or public water systems during any emergency. The territory embraced in the report includes Essex, Hudson, Union, Passaic, Middlesex, Bergen and Somerset counties, with a major portion of the state's population, and including 33 water supply systems. Mr. Burgess said that 40 possible ways of interchanging water have been worked out by technicians. These include existing interconnections and new ones ordered or under construction so that alternative reroutings of water can be made from one system to another.

Five directors of emergency operations have been appointed to make the proposed projects as effective as possible. One of the directors, each serving in weekly relays, will be available day or night for emergencies. Municipalities may get in touch with the director through a liaison officer appointed by the Water Policy Commission. Private telephone lines will make the director available at all times to municipalities, so that an alarm may be transmitted immediately.

The plan is solely to provide substitute water supplies, and does not include repairs to damaged equipment. "Repair of damage to water systems, if a city is unable to cope with it, remains a responsibility of the State Office of Civilian Defense, to which your water superintendent should appeal under the mutual aid plan, however," Mr. Burgess told local water officials.

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Hardwood lumber use to total 5,670 billion feet

Estimates of hardwood lumber consumption for 1943 totaling 5,670,000,000 ft. were presented by the lumber and lumber products division of the War Production Board recently in a bulletin addressed to members of the Hardwood Lumber Manufacturers Industry Advisory Committee, hardwood manufacturers and distributors of hardwood lumber.

The WPB estimate of requirements for 1943 is: boxing and crating, 2,880,000,000 ft.; factory uses, 1,560,000,000 ft.; civilian construction (including war housing) 800,000,000 ft., and direct military purchases (including Army, Navy, Maritime Commission and United Kingdom) 430,000,000 ft. These estimates were said to indicate a decrease from 1942 in all uses except boxing and crating.

Members of the Hardwood Lumber Manufacturers Advisory Committee have advised the lumber division that hardwood production is at least 10 percent below that of the same season last year and may be down to 20 to 30 percent in some regions, as a result of reduced log inventories. (*ENR* Dec. 10, 1942, p. 814).

THE Bonneville Power Administration has delivered 927,000,000 kw.-hr. of Columbia River power to the account of the Portland General Electric Co. during the three years just ended, according to a yearly report issued by the Power Administration.

Urge $6,000,000 loan for Baltimore water system

Engineering consultants of the City of Baltimore, Md., have advised the mayor to ask the city council for approval of a $6,000,000 loan for use in augmenting the water supply of the municipality.

The action is necessary because city voters defeated a proposed $32,000,000 water loan in the general elections last November (*ENR* Nov. 12, 1942, p. 673) and engineers contend that the city is still faced with a mounting water demand which it may not be able to meet.

Abel Wolman and Gustav J. Requardt, municipal water consultants; George Cobb, chief engineer of Baltimore, and Leon Small, head of the city's bureau of water supply, advise that the loan should be made under the emergency powers of the city charter. Some of the money would be used for development of an emergency supply by pumping from the Patapsco river, tapping the stream at some point which can later be developed as a permanent supply. Another portion of the money would be used for making immediate studies, field surveys and preparation of drawings and specifications for the emergency supply, the acquisition of such land and water rights as are essential, and for office studies, and preparation of drawings and specifications for the most needed improvements to the distribution system.

A statement accompanying the consultants' recommendations to the city said that the demand for water in Baltimore since June has been above the safe yield of the present Gunpowder supply. For 1942, the demand was about 149,000,000 gal. per day, with the consumption in August the highest on record, namely, 167,000,000 gal. The safe yield of the present supply is 148,000,000 gpd.

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AED to hold "Victory Seminar" January 11-13

The Associated Equipment Distributors will hold a "Victory Seminar" for the construction equipment industry at the Edgewater Beach Hotel, Chicago, Ill., January 11 to 13, according to T. W. Harron, president.

Purpose of the three-day meeting will be to bring together manufacturers, distributors and government officials for round-table discussions on coordination of their efforts for early victory in the current war.

Speakers will include Maj. Gen. Eugene Reybold, Chief of Engineers; Kinsey Merritt vice-president of the Railway Express Agency, and others. Election of officers and directors for 1943 will also be a part of the program.

MEN AND JOBS

Ira E. Taylor, formerly engineer of maintenance for the Kansas State Highway Department, has been promoted to the rank of captain in the Corps of Engineers, located in the Omaha, Neb., engineer's office.

Robert J. Hassett, formerly an employee of the Iowa State Highway Commission, has been named acting city traffic engineer for Des Moines, Ia.

Clarence E. Stahl, of Stillwater, Minn., now serving with the Missouri River Division, Corps of Engineers, has been promoted to the rank of lieutenant colonel.

Carl A. Post, a former employee of the American Bridge Co. of Indiana has become associate engineer for the Phillips Petroleum Co. at Okmulgee, Okla.

Howard H. Potter, recently waterworks engineer of the Maine Public Utilities Commission, at Augusta, has been appointed regional sanitary engineer of the first civilian defense region, with headquarters in Boston, Mass.

Thomas Watts Jr., superintendent of maintenance and construction in the St. Louis, Mo. city traffic division, has been appointed traffic engineer, replacing Joseph J. Feuchter, now in the armed services.

Roy L. Clark, of the Des Moines, Ia., consulting engineering firm of Nemmers and Clark, has joined the War Production Board's Iowa staff.

George W. Melville, city planning engineer of San Francisco, Cal., recently resigned his post.

James B. Holt, assistant engineer for the Allis-Chalmers Mfg. Co., has been appointed a lecturer on hydraulic engineering on the staff of the Milwaukee, Wis. School of Engineering.

W. H. Gaylord of Jamesville, N. C., recently became sanitarian at Plymouth, N. C., for a tri-county district health department.

Carl H. Bauer has been named county engineer of Montgomery County, Ohio, replacing **Victor C. Smith** who resigned recently.

W. D. Twing is general superintendent for the J. A. Jones Construction Co. of Charlotte, N. C., on construction of Naval facilities in that state.

Five promotions in his organization have been announced by **Col. E. G. Thomas,** Salt Lake City, Utah, district engineer. They are: From major of lieutenant colonel, **George A. Howarth;** captain to major, **Wayne G. Brown** and **William F. Hughes;** from first lieutenant to captain, **Walter L. Meyer** and **E. W. Garbett.**

Robert Daniel Dixon, former acquisition survey engineer of the Croatan National Forest in North Carolina and former engineer for the A.A.A. at Raleigh, N. C., has been commissioned a first lieutenant in the Army Air Forces.

Victor Yuppa, civil engineer who served with the Board of Transportation of the City of New York as asistant section engineer, has accepted an appointment as a civil engineer assigned to the U. S. Engineers District Office at New York City.

Ray Fisher has been appointed county highway superintendent at Indianapolis, Ind., succeeding **Luther E. Tex,** who recently was appointed Indianapolis city street commissioner.

T. Keith Legare, assistant construction engineer of the South Carolina state highway department who has been on leave since March 15 while serving as assistant chief engineer on the Congaree Army air base for the Corps of Engineers, has been named area manager for the Columbia, S. C., area office of the War Production Board. Mr. Legare is secretary and a member of the South Carolina State Board of Engineering Examiners, and is secretary of the National Council of State Boards of Engineering Examiners.

Transfer of four highway district engineers was announced recently by **Maj. Walter A. Rosenfield,** director of public works and buildings, for Illinois. The men to be transferred are: **Richard T. Cash,** from District 5 at Paris to District 1 at Elgin; **Charles H. Apple,** from District 1 at Elgin to District 10 at Chicago; **Kendrick Harger** from District 10 at Chicago to District 3 at Ottawa and **George A. Somerville** from District 3 at Ottawa to District 5 at Paris.

Lieut. Col. H. E. Bates, well-known Canadian engineer who was a member of the board of engineers responsible for the building of the Quebec bridge, has been appointed chief instructor of gunnery at the Canadian artillery training center.

C. W. Klassen, chief sanitary engineer for the State of Illinois, recently was appointed a member of the state's poliomyelitis advisory committee.

Leo H. High, former district WPA safety engineer at Durham, N. C., now is serving as chief safety engineer for the firm of Sanderson and Porter, of Charlotte, N. C., engaged in construction of an ordnance plant.

Maj. A. E. Stolz, who succeeded **Maj. Wayne O. Hauck** as area engineer at the Badger Ordnance Plant in Wisconsin, has been promoted to lieutenant colonel and will be transferred to active service with engineer troops.

Capt. Arthur D. Dukes, assistant area engineer for Maxwell and Gunter Fields, Ala., has been promoted to the rank of major.

Paul F. Chamberlain, Asheville, N. C., engineer, has been named a member of the Buncombe County War Price and Rationing Board at Asheville.

John M. Fush, former assistant general manager of dock board at New Orleans, La., has been made supervisor of rail terminals in the Office of Defense Transportation.

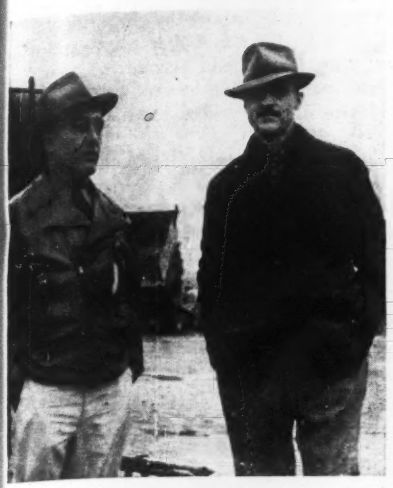
Joseph D. Wood, Boise, Idaho, has been appointed director of highways and commissioner of public works for Idaho in a consolidation of those positions. He replaces **T. Matt Hally** as director of highways and **A. C. Merritt** as public works commissioner. Wood, a civil engineer, served as public works commissioner from 1927 to 1940.

E. C. Leonard of Burlington, N. C., formerly associated with Lockwood, Kessler and Bartlett, engineers, on the construction of a new fuel pipe line, now is connected with the firm of Piatt and Lee, engineers, assigned to the engineering staff as inspector of grading at the new army center under construction in North Carolina.

Harold A. Fitch, employee of the Lake County engineers office at Painesville, Ohio, has been named assistant sanitary engineer by the board of county commissioners.

M. D. Clark, engineer of maintenance of way and structures of the Durham and Southern and Piedmont and Northern Railroads, at Greenville, S. C., has been appointed superintendent in charge of transportation, maintenance of way and mechanical departments of the Durham and Southern.

William H. Newell, executive secretary of the Tennessee League of Municipalities, has been granted a leave of absence to become an assistant civil engineer with the rank of lieutenant in the naval construction battalion.



Above: Construction of an airport in Kentucky holds the interest in this discussion between DONN L. WRIGHT, left, resident engineer, and OTTO W. WEHRLE, engineer, airport design section, Louisville District, U. S. Engineers.

Above: J. H. KRATOSKA, superintendent for Foster & Creighton, Nashville, Tenn., contractors on substructure of a bridge near Bowling Green, Ky., had to tackle the job of making cavernous underlying rock support the main pier structures.

Above: Details of plans for a large war factory near Indianapolis, Ind., are under discussion here by ROY RANDELL (left) superintendent for the H. K. Ferguson Co., of Cleveland, O., and J. D. FITZPATRICK, chief clerk.

MEN AT WORK

Above: VIRGIL B. GROW, JR., of the Portland Cement Association's office at Richmond, Virginia, took time out recently to explain details of the successful use of cement-grouted sub-ballast for railroads in the Richmond area.

Below: (left to right) FRED A. HANSEN, resident engineer for the Army Engineers; T. S. WILLIS, general contractor for a major part of the work, and GEORGE L. MILLER, principal inspector for the Army engineers, check plans for a war plant under construction by the Rock Island District, U.S.E.D.

Above: MAJ. BENJAMIN T. ROGERS, area engineer at the West Virginia Ordnance Works, stands before a many-sided reinforced-concrete reservoir at the project. He has been responsible for many other short-cuts to meet a fast construction schedule.

Seattle renews call for bids on Ross Dam addition

The Seattle board of public works has called for bids for a second time for construction of the second step of Ross dam, a part of the city's Skagit hydroelectric power development. The new bids will be opened Jan. 21, 1943.

The alteration program calls for the raising of the multiple concrete arch dam by 182 ft. over its present height in order to provide for an increase in firm power.

First bids were received Aug. 6, with the General Construction Co. of Seattle; J. F. Shea Co., Portland, Ore., and the Morrison-Knudsen Co. of Boise, Idaho, making a joint bid of $6,146,214. In addition, separate bids were received for cement, discharge regulating valves and other valves and other work. These bids later were rejected (*ENR*, Aug. 27, 1942, p. 272) as being in excess of available funds. Since that time a grant has been received from the Federal Works Agency in the amount of $1,864,750 to aid in financing the project.

Total cost of the project is now estimated at $10,164,760. Under terms of the new contract, the contractor will furnish all items. Specifications also have been changed to provide for the inclusion of a concrete cooling pumping plant and the amounts of necessary rock excavation, cement and concrete have been increased.

E. R. Hoffman, superintendent of the city light department, will direct the work. W. B. Wolfendale will be supervising engineer, while B. E. Torpen of Portland, Ore., is consulting engineer.

Fontana steel plant placed in operation

A plant to convert western iron ores into steel for use on the Pacific Coast was started up at Fontana, Calif., December 30, with dedication ceremonies at which Henry J. Kaiser, owner emphasized the rapidly increasing importance of west coast industries and the urgent need for steel made locally.

The advantage in the new plant lies, he said, in having under one management the manufacture of steel beginning with the selection of ores and other raw materials and extending all the way through to finished steel products. Additional capacity is already being planned, Kaiser said, and R.F.C. applications have been made for funds with which to add a second blast furnace and three more open hearth units.

If steel is available, he said, his shipyards at Portland, Oregon and Richmond, Calif., would be able in 1943 to treble the number of ships they produced in 1942.

The steel mill has a rated capacity of half a million tons per annum, and was designed to reduce a high grade iron ore (about 60 per cent iron content) with low sulphur content that will be mined at a point where the haul to the plant will be only a few miles. Coal is to be brought in from Utah to cooking ovens at the plant. There are four open hearth furnaces of 60 to 80 tons capacity, and a 110-in. plate mill. A sintering plant will reduce fines in the ore to granular form, thus reducing the tendency to emission of dust with fumes.

Sales taxes applied war work contractors

Two state tax commissions recently warned contractors doing war work within their jurisdiction that state sales taxes are applicable.

The Iowa State Tax Commission ruled that constructing contractors who work on a cost-plus-a-fixed-fee basis shall pay sales and use tax on materials going into construction of war plants.

Commission Chairman Fred W. Nelson said the ruling applies to materials delivered since Dec. 2, 1941. Before that time the commission had held that the material was tax exempt.

In California, contractors, machinery supply concerns and similar establishments were notified that they must pay the 3 percent state sales tax on all materials purchased for use under cost-plus-fixed-fee contracts with the government for improvement of real property.

The State Board of Equalization said the tax must be paid on all materials delivered on or after Nov. 10, 1941.

Consider state operation of Golden Gate bridge

Faced with the threat of financial insolvency resulting from loss of revenue due to war conditions, a special interim committee of the California State Senate is considering a proposal that the state take over the operation and maintenance of the Golden Gate bridge.

Recently, Hugo D. Newhouse, president of the bridge directorate, told the committee that financial insolvency threatens the bridge. He said the greatest single factor contributing to the revenue drop was the fact that employees of 90-odd government agencies now ride the bridge toll-free, at a cost of about $450,000 in potential tolls annually.

Newhouse emphasized that the government agencies did not include the military, but were entirely civilian activities.

There are still amounts of $34,800,000 in bridge indebtedness, and charges of $2,100,000 yearly for interest, bond amortization, and payroll chargeable against the revenues from the long crossing.

Original suggestions by the bridge director were two: first direct state aid to make up losses, and second, an assessment on property owners in the six counties of the bridge district to offset losses.

Frank W. Clark, state public works director, sent a letter to the chairman of the Senate interim committee suggesting that the state take over operation of the bridge with the primary objective of making the $35,000,000 span toll-free as soon as possible. He said he believed the state highway division could supervise, operate and maintain the bridge on a considerably lower toll basis, pending the time when financial arrangements could be made to take care of outstanding bonds, and the structure could be operated for public use free of tolls.

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Court halts Oklahoma road contract award

An Oklahoma County (Okla.) district court has halted the awarding of contracts for work totaling more than $700,000 on state highways, on a petitioner's plea that the road work cannot be finished in contract time in view of the war situation.

The action was taken on a petition by R. H. Walker, a citizen, asking for an injunction permanently halting contract negotiations with construction firms who entered low bids in a letting Dec. 11. The restraining order, signed by District Judge Clarence Mills, ties up plans for awarding contracts totaling $700,382.72—the total of low bids on eight road projects scattered over the state.

Asking the court to bar the contracts on the ground that the priority situation would prevent construction of the roads even if the contracts were awarded, Mr. Walker charged that commissioners had planned to make the awards in spite of the fact that they "are fully aware that said projects cannot be completed in the allotted time for the reason that under the war emergency act and regulations issued thereon by the War Production Board, materials and machinery for construction of the projects are not available."

"There is no way of telling how long such conditions will exist," the petitioners allege, "and at the end of such time conditions may have so changed that construction and performance of said projects may be entirely unwise and unnecessary."

THE Austin Co., engineers and builders, and associated subcontractors, have been cited to receive the joint Army-Navy "E" award for outstanding performance in wartime construction at the Seattle, Wash. naval air station.

Colorado cuts 1943 road budget to half of 1942

A 1943 budget for the Colorado highway department, calling for expenditure of $4,787,485—or about half of the money allotted for 1942—has been signed by Governor Carr.

Under the reduced road program, the department will devote itself largely to maintaining present highways and mapping plans for projects near populous centers, to be ready for post-war employment.

Highway Engineer Charles D. Vail said that every effort will be made to keep present roads in good condition, despite a cut of about $700,000 in funds provided for maintenance purposes. No specific projects were set up for the year and no attempt has been made to allocate funds among the various state highway districts.

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Ohio lets $23,000,000 road work for 1942

Contracts involving the expenditure of $23,204,828 for highway construction and improvements were awarded by the Ohio Department of Highways during 1942, according to a record of his organization's work for the year, released by Hal G. Sours, state highway director.

Of the total, $8,606,044 was awarded for the construction of 40.9 miles of access roads; $4,689,957 for 23.2 miles of strategic network projects.

Mr. Sours said that although the Highway Department does not have a definite program at this time for work to be accomplished in 1943, it is believed that sufficient funds will be available to carry on a program of about 70 per cent of the volume of work that was placed under contract in 1942.

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Pennsylvania totals year's highway work

Forty-three contracts, aggregating $7,906,482, were awarded in 1942 for the construction and reconstruction of roads and bridges, the Pennsylvania state highway department has announced.

The contracts provided for the improvement of 61.31 miles of roads.

In addition to this work, the department has completed about 446 miles of improvements using department forces which include surfacing, resurfacing, and widening.

Department forces also have taken over some WPA projects in order to complete the mwithin the year.

JOBS OF THE WEEK

BUILDING, Texas
U. S. Engineers, Fort Sam Houston, awarded contract to Hagstrom Construction Co., Temple, for general hospital $2,800,000.

BUILDING, Louisiana
U. S. Engineer, Galveston, Tex., hospital, Calcasieu Parish, to Port City Construction Co., Lake Charles, under $1,000,000.

BUILDINGS, Washington
Western Construction Co., Seattle, Wash., was lowest bidder for constructing 580 apartment units, when Renton Housing Authority opened bids at $1,086,767, NHA. G. W. Stoddard, Griffin & Lowe and Associates, Seattle, are architects.

THEATRE OF OPERATIONS BUILDING, Michigan
U. S. Engineers, Detroit, Mich., awarded contract for construction of theatre of operations type building, watermains, sewers, connections and electrical distribution system, Wayne County to Gilbert Douglas Co., Detroit, Mich. Less than $1,000,000.

BRIDGE, Kansas City, Mo.
Chicago, Rock Island & Pacific Railway Co., F. W. Thompson, ch. engineer, Chicago, Ill. and Chicago, Milwaukee, St. Paul & Pacific Railroad Co., W. H. Penfield, chief engineer, Chicago, awarded contract to Massman Construction Co., Kansas City, for 1,186 ft. four span single track bridge, east of Kansas City. Total estimated cost $1,500,000. Howard, Needles, Tammen & Bergendoff, Kansas City, Mo. are engineers.

BRIDGE, Georgia
State Highway Department, Atlanta, awarded contract for the construction of a bridge over Darien River, McIntosh County to Scott Construction Co., Thomasville, Ga., $900,634.

HOUSING, Virginia
T. Calvin Owens Co., Washington, D. C., has been awarded contract for 500 units, Columbia Turnpike Housing, Va., by Public Housing Authority, NHA, Washington, D. C. Estimated cost $1,413,000. Faulkner & Kingsbury, Washington, D. C., are architects.

HOUSING, California
Alameda Housing Authority, Alameda, received lowest bid for constructing Encinal Housing Project, Alameda County from F. C. Stolte Co., Alameda. The successful bid was $1,332,668. George E. Atkins, San Francisco, is engineer. Andrew T. Haas and Carl Warnecke, both San Francisco are architects.

HOUSING, Baltimore, Md.
Public Housing Authority, Washington, D. C., received lowest bid for 1,000 unit project from John A. Johnson & Sons, Brooklyn, N. Y., at $1,197,326.

HOUSING, California
Alameda Housing Authority, Alameda, received lowest bid Chipman Project, including rough grade and fill, from Robert McCarthy Co., San Francisco, $2,573,663. Andrew T. Haas, and Carl I. Warnecke, Oakland, San Francisco, architects.

HOUSING, Virginia
Public Housing Authority, NHA, Washington, D. C., received lowest bid housing project, Arlington County from Fred J. Brotherton, Inc., Hackensack, N. J. $2,868,900. Murphy & Locraft, Washington, D. C., are architects.

DORMITORIES, Oregon
Portland Housing Authority, Portland, Ore., awarded contract dormitories, Swan Island Area, to George H. Buckler Co., Portland, Ore., $1,900,000. Wolff & Phillips, Portland, are architects.

AIRPORT, Texas
U. S. Engineers, Denison, awarded contract for airport, Smith County to Robert E. McKee, El Paso. Estimated cost $3,200,000; grading, drainage, to Spencer Construction Co., Carrollton, $685,000.

GRADE CROSSING, Ohio
Visintine & Co., Columbus, O., was awarded contract on grade crossing elimination project, 2.243 miles Columbus, Ohio, by State Highway Department, Columbus, at $540,000. The Baltimore & Ohio, Pennsylvania and New York Central Railroads will contribute to cost. Work consists of erecting concrete beam, continuous steel beam and continuous concrete beam superstructure and rigid frame structure over Fifth Avenue, also grading, drainage, structures, concrete paving and roadside improvement on Mifflin Township, section of James Road, Columbus.

SEWER SYSTEM, Texas
U. S. Engineers, Fort Sam Houston, sanitary sewer system and water distribution system, Coryell County to Parrott & Oldt, Dallas, Texas. To exceed $500,000.

NOTE—Additional bidding and contract news on many projects large and small appear in the Construction News section beginning on page 15.

OBITUARY

Warren Taylor, 79, retired civil engineer of Sharon, Pa., died there Dec. 30.

Thomas Tonkin, Sr., 86, retired civil engineer of San Jose, Calif., died recently.

James M. Clark, Sr., civil engineer and a director of the West Virginia Society of Professional Engineers since its organization, died recently at Charleston.

Magnus Hellstrom, 76, retired civil engineer of Miami, Fla., died there recently. He had been a resident of Mahwah, N. J., before coming to Miami several months previously.

Steven Milis, 65, civil engineer for the Cook County (Ill.) highway department, died Dec. 3 of injuries received when he was struck by a Chicago bus.

Maj. Walter Smith, U. S. Army area engineer in charge of construction at the Nashville, Tenn. airport and other projects near Asheville, died Dec. 29 at his home in Cleveland, Ohio.

Walter C. Bartelt, 47, a city of Milwaukee surveyor for the past 22 years, died there recently.

A. B. Clark, 75, retired assistant to the chief engineer of the Pennsylvania Railroad, died recently at his home in Trenton, N. J.

Harry T. Patterson, 68, of Wilmington, N. C., assistant engineer in government service on work in Colorado, Arkansas and New Mexico, died Jan. 1.

Frank C. Kane, 56, an engineer for the Pennsylvania Railroad for the past 38 years, died recently at Philadelphia.

George Stewart, 60, an engineer for the San Francisco board of public works, died Dec. 30 at San Francisco.

Robert F. McCloskey, president of the Robert F. McCloskey Co., and consulting engineer to the war department, died Dec. 26 at his home in Pittsburgh, Pa. Mr. McCloskey was a former vice president and director of the Blaw-Knox Co.

Thomas D. Singleton, 68, of Vicksburg, Miss., a civil engineer who participated in projects in southern, southwestern and southeastern seaboard states, died recently.

Albert Baker Davis, Sr., 75, contractor and civil engineer of New Orleans, La., died there Dec. 27. He was formerly levee engineer for that city.

Henry S. Elliott, 62, locating engineer for the Oklahoma state highway department, died Dec. 27 at Oklahoma City.

George W. Clement, 90, formerly city building inspector at Asheville, N. C., died at Asheville Dec. 25.

Richard Conover Loos, 71, architect of Philadelphia who designed more than 500 churches and a great many other buildings in cities throughout the United States, died in Philadelphia Dec. 23.

James W. Van Wagen, 70, for 22 years a road construction foreman for the Ohio Engineering Co., died at Lorain, Ohio, recently.

William A. McKie, construction superintendent of the Quonset Point, R. I., naval air base, died in a Providence, R. I., hospital Jan. 2.

Denis C. Greaney, 65, former superintendent of streets at Wakefield, Mass., and lately connected with the Metropolitan District Commission in Boston, died at Wakefield on Dec. 28.

James M. Love, 72, former mayor and building contractor of Lake Worth, Fla., died there recently.

Harry B. Nelson, Sr., 56, president of the H. B. Nelson Construction Co. of Atlanta, Ga., died there recently.

Charles M. Peters, 88, widely known concrete construction contractor in Milwaukee, Wis., died there Dec. 28.

William Francis Cunningham, 42, vice president of John A. McCarthy & Co., died at his home at Rye, N. Y., Jan. 2.

Henry Wordell, 53, contractor of Manitowoc, Wis., died there recently.

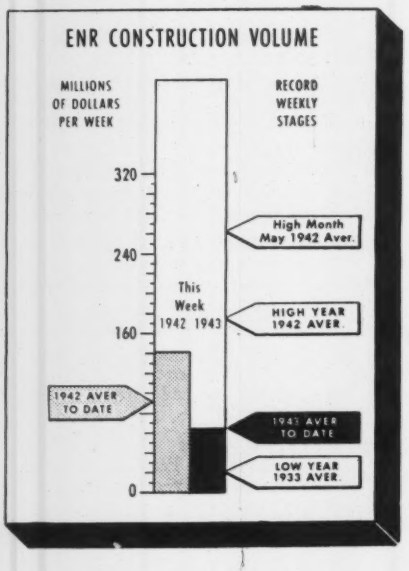
CONTRACTS AND CAPITAL

ENGINEERING CONSTRUCTION volume for the opening 1943 week totals $63,928,000, a decline of 55 percent from the corresponding week in 1942, and it compares with $76,295,000 reported for the holiday-shortened preceding week. Private construction is 60 percent lower than in the week last year, and public work is down 54 percent as a result of the respective 64 and 52 percent decreases in state and municipal and federal volumes.

On the basis of weekly averages, the 1943 total is 35 percent under that recorded for the weeks ending January 1 and January 8 in 1942. Private work is 36 percent lower, and public construction is off 35 percent compared with last year's two-week average.

In the classified construction groups, gains over the short preceding week are reported in all classes of work except unclassified construction. Increases over the week last year are in waterworks, sewerage, bridges, and unclassified construction.

New capital for construction purposes for the week totals $524,000, entirely state and municipal bond sales. New construction financing for the corresponding week in 1942 reached $451,169,000, a volume that was made up of $450,000,000 in federal construction appropriations, and $1,169,000 in state and municipal bond sales.



CONTRACTS

(Thousands of dollars)

	Week Ending Jan. 8 1942	Dec. 31 1942	Jan. 7 1943
Federal	$109,107	$67,583	$51,934
State & Municipal	19,317	5,727	6,877
Total public	$128,424	$73,310	$58,811
Total private	12,728	2,985	5,117
TOTALS	$141,152	$76,295	$63,928
Cumulative 1943 (1 week)			$ 63,928
1942 (2 weeks)			$196,184

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1942 2 weeks	1943 1 week
NON-FEDERAL	$17,687	$524
Corp. Securities	.....	.....
State & Mun.	7,687	524
R.F.C. loans	10,000	.....
FEDERAL	450,000	.....
TOTAL CAPITAL	$467,687	$524

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Dec. '42	283.69	136.37
Building Cost	Dec. '42	226.63	122.51
Volume	Nov. '42	462	202

FHA MORTGAGES

	Week Ending Jan. 3 1942	Dec. 26 1942	Jan. 2 1943
Selected for appraisal			
Title II	$7,276	$2,521	$1,882*
Title IV	$4,609	$8,089	$3,667*

* Subject to revision.

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